AD-A255 925

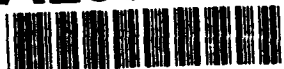||||||||||||||||||||

AD_____

REPORT NO T22-90

FACILE INVENTORY DATABASE MANAGEMENT SYSTEMS FOR SMALL COMPUTER NEEDS

U S ARMY RESEARCH INSTITUTE

OF

ENVIRONMENTAL MEDICINE

Natick, Massachusetts

DTIC
ELECTE
SEP 3 0 1992

SEPTEMBER 1990

92 9 29 021

92-26133

||||||||||||||||||||

UNITED STATES ARMY
MEDICAL RESEARCH & DEVELOPMENT COMMAND

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE September 1990	3. REPORT TYPE AND DATES COVERED Technical Report

4. TITLE AND SUBTITLE

Facile Inventory Database Management Systems
for Small Computer Needs

5. FUNDING NUMBERS

6. AUTHOR(S)

Deborah A. DiRaimo

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

U.S. Army Research Institute of Environmental Medicine
Natick, MA 01760-5007

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

Same as 7.

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT

Approved for public release; distribution is unlimited.

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

Two database systems, an Inventory Database Management System and a Hand Receipt Database Management System, were developed for use by the Military Ergonomics Division. These programs, written in dBase IV, are useable on a desk top computer for persons with little experience in computer operating systems. As Oracle becomes available in the future, these programs will be recoded for use with that software. This system is useful in that it allows the user to edit, manipulate and make inquires on the databases. On-line help and interactive menu screens make the system easy to use. Related to the Inventory Database Management System, is a dBase IV Database Save/Combine function. These commands, accessed through dBase IV macros, allow the user to (1) save the databases periodically and to proceed with new, empty databases and (2) to combine databases from different periods. These programs are not restricted for use only to Military Ergonomics Division purposes; they can be readily adapted for any inventory or database management purpose. With appropriate modifications, the system should complement main frame systems presently in use.

14. SUBJECT TERMS

inventory control; database management dBase programming;
PC systems; data organization

15. NUMBER OF PAGES

54

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18
298-102

1

CONTENTS

EXECUTIVE SUMMARY

Two database systems, an Inventory Database Management System and a Hand Receipt Database Management System, were developed for use by the Military Ergonomics Division. These database systems were written in dBase IV. As Oracle becomes available in the future, these programs will be recoded for use with that software system. These programs are useable on a desk top computer for persons with little experience in computer operating systems. A data management system is an essential mechanism towards the maintenance of efficient and well-organized files. The system described here is a useful one in that it allows the user to edit, manipulate and make inquires on the databases. Data can be queried in a variety of informative ways. On-line help and interactive menu screens create an easy to use data management system. Accessed separately, but related to the Inventory Database Management System, is a dBase IV Database Save/Combine function. These commands, accessed through dBase IV macros, allow the user to (1) save the databases periodically (e.g. each fiscal quarter) and to proceed with new, empty databases and (2) to combine databases from different periods (e.g. to conduct end-of-year reports). A computer database system will facilitate and improve the accuracy of inventory and hand receipt item tracking, reduce the time spent maintaining accurate records, and enhance both the inventory purchasing and the hand receipt lending processes. It should be noted that these programs are not restricted for use only to Military Ergonomics Division purposes; they can be readily adapted for any inventory or database management purpose. With appropriate modifications, the system should complement main frame systems presently in use.

INTRODUCTION

This technical manual provides information on the process that the Military Ergonomics Division of the U.S. Army Research Institute of Environmental Medicine is planning to adopt to maintain accurate database records. Two database systems will be described in this report, an Inventory Database Management System and a Hand Receipt Database Management System. These programs are useable on a desk top computer for persons with little experience in computer operating systems.

Section One describes the inventory database system, which includes the following: a Parts Inventory database, a Supplier Information database, a Workunit Ceiling database, on-line Help screens, file editing capabilities, and Print/ Query procedure. This database process is intended to replace the current paper file system of organizing the inventory.

Section Two describes the hand receipt database system. This system includes a hand receipt item database and a hand receipt history database, on-line Help screens, file editing capabilities, and Print/ Query procedures; it is intended to improve the current process of lending and tracking hand receipt items.

This manual documents the procedure to follow to utilize the database programs. A computer database system will facilitate and improve the accuracy of inventory and hand receipt item tracking, reduce the time spent maintaining accurate records, and enhance both the inventory purchasing and the hand receipt lending processes. It should be noted that these programs are not restricted for use only to Military Ergonomics Division purposes; they can be readily adapted for any inventory or database management purpose. With appropriate modifications, the system should complement main frame systems presently in use. Updates to the program can be made as major revisions to the different software programs develop.

SECTION ONE- Inventory Database Management System

SYSTEM DESCRIPTION

A data management system is an essential mechanism towards the maintenance of an efficient and well-organized inventory. The system described here is a useful one in that it allows the user to edit, manipulate and make inquires on three independent, but also integrated, supply databases. The first database is the Parts Inventory database containing information pertinent to supply purchases such as quantity, price, supplier, requisition number and work unit making the request. The second database holds Supplier Information such as name, address, phone number and person of contact. The last database keeps track of the allotted ceiling amounts for each work unit. This system prints inventory data queried by purchaser, price, supplier, or part category. On-line help and interactive menu screens create an easy to use data management system. Accessed separately, but related to this data management system, is a dBase IV Database Save/Combine function. These commands, accessed through dBase IV macros, allow the user to (1) save the inventory and supplier databases periodically (e.g. each fiscal quarter) and to proceed with new, empty databases and (2) to combine databases from different periods (e.g. to conduct end-of-year reports).

Software. The Inventory Database Management System is programmed in dBase IV. dBase IV must be installed to run this data management system; necessary files include the following:

CONFIG.DB

dBase IV files with the following extensions...   .OVL
.EXE
.RES
.HLP
.GEN
.CAT
.PRF

4

Also required are the following programs, database files and index files created to support the database management system:

Programs	Database Files	Indexes	Macros
GN.PRG	MECODES.DBF	MECODES.NDX	RPTS.KEY
MEIHELP.PRG	MEINVPRT.DBF	MEPPCODE.NDX	
MEPRINT.PRG	MEINVSUP.DBF	MESSCODE.NDX	
MEPSCRN.PRG	MECEIL.DBF	MEPURCDE.NDX	
MEPSCRN2.PRG			
MESSCRN.PRG	GN.DBO	MECODES.MDX	
MESSCRN2.PRG	MEIHELP.DBO	MEINVPRT.MDX	
MECSCRN.PRG	MEPRINT.DBO	MEINVSUP.MDX	
MECSCRN2.PRG	MEPROC.DBO	MECEIL.MDX	
MEPROC.PRG	MEPSCRN.DBO		
	MEPSCRN2.DBO		
	MESSCRN.DBO		
	MESSCRN2.DBO		
	MECSCRN.DBO		
	MECSCRN2.DBO		

Hardware. The Inventory Database Management System is designed to run on the PC in a single user environment. A color monitor is not required.

OPERATING PROCEDURES

ENTERING DBASE AND SELECTING THE DATABASE

Before entering dBase, make sure that the date set on the computer is correct. From the Word Perfect Library menu, choose the dBase IV option (B).

Once in dBase IV, at the dot prompt type DO GN.

. do GN <-

To leave dBase IV type <u>QUIT</u>.

                              . QUIT <-

Control will automatically return to the Word Perfect Library menu upon quitting dBase IV.

Database selection screen. The first program screen will ask which database to make the working database. The options are (a) the Parts Inventory database, (b) the Supplier Information database, and (c) the Work Unit Ceiling database. After the initial response, the corresponding input screen and Command Menu will be displayed. Appendix A shows the Database Selection Screen, each database Input Screen, and the Command Menu.

Function key assignment. From the command menu, the user may do the following:

F1 or H	go to the HELP facility
F2 or S	SEARCH the database
F3 or N	go to the NEXT record
F4 or P	go to the PREVIOUS record
F5 or D	DELETE the current record
F6 or R	RECOVER a deleted record
F7 or A	ADD a record to the database
F8 or C	CHANGE information in a record
F9 or I	PRINT database information
F10 or X	EXIT the Inventory Program

Refer to Appendix A and Appendix B for function key options and assignments.

FLAGS AND FIELD DESCRIPTIONS

The program keeps track of the amount of money spent per workunit. A very useful addition is that the workunit total, ceiling amount, and net balance are displayed beneath each record. If the work unit total exceeds the allotted workunit ceiling amount a flag, !!, will appear and a warning will flash. When records are Deleted, Recovered, or Changed, the totals for the corresponding work units are adjusted.

6

Field descriptions. The databases are indexed by unique record codes; the Parts Inventory code and the Supplier Information code are each a maximum of 8 characters in length, and the Work Unit code is 4 characters in length. Indexes allow the system to keep the files, or records, in the database in an easily retrievable order. The options S (search), C (change), and A (add) are triggered by these codes. Therefore, the code for each file must be unique so the system knows which file or record to work with. The Supplier Information code consists of 3 characters from the supplier's name and the supplier's zip code; the user may create their own supplier code, as long as it is **unique** and **eight characters in length**. The Bar Code is the RIEM code that is allocated to purchased parts; this is recommended as the Parts Inventory code. A UNIQUE dummy code should be used for parts being purchased (they have no RIEM code). The requisition number may serve as the dummy code as long as it is **unique** and **eight characters in length**; remember, however, that the code will be used to index the databases, and, therefore, must be easily recalled. The Workunit number can serve as the Workunit code.

Information is inserted through the command menus into records via fields. The fields in the Parts Inventory menu include the bar code, the part category (a general classification such as SFT for software or HRD for hardware), the supplier code, the requisition number (as appears on the order form), the part description, the quantity, the unit price, and the workunit (four digits representing the workunit making the purchase request). The fields in the Supplier Information menu are the supplier code, the suppliers name, two lines for the suppliers street address, the suppliers city, the postal abbreviation for the suppliers state, the 5 digit suppliers zip code, the point of contact, and the suppliers area code and telephone number. The Workunit menu contains only two fields, the workunit and the ceiling amount.

Flags for incorrect input. If essential information in a record (such as the supplier's address or the part quantity or price) is missing, a * will prompt the user to provide the necessary information before proceeding further. If that piece of information is not known at the time of data entry, the user can fill the field with a "holder" (such as **unknown**) and then correct the information at a later date. In addition, in the Supplier Information command menu, the STATE field and the AREA CODE field display the names of the areas associated with the state and area code entered. For example, if the user enters 'MA' for the STATE field and '617' for the AREA CODE field, the program will display 'Massachusetts' and 'Eastern Mass Area' over the corresponding fields. Please check these areas to ensure that the supplier's address is correct. Any errors can be corrected by choosing F8 or C in the command menu.

EDITING, DELETING, AND RECOVERING FILES

While editing the menu fields, the following keyboard functions can be utilized:

ARROW KEYS	left/ right to move one space
	up/ down to move one field
ENTER	skip to next field
END	move to end of field
HOME	move to beginning of field
DEL, INS	functional
BACKSFACE	functional
PgUp/ PgDn	NOT functional

Files in the databases can be deleted with option D or F5; the user is prompted for verification before the deletion takes place. Deleted files are still displayed and are identified with a tag in either upper corner, * **DELETED** *. Deleted files are not accessed with any print/query option (I or F9). Option R or F6 recovers deleted files. To eliminate deleted files permanently (they can NEVER be recovered), type PACK {database name} at the dot prompt prior to quitting dBase IV.

. PACK MEINVPRT <-

The following databases can be PACKED:

MEINVPRT	Part Inventory Database
MEINVSUP	Supplier Information Database
MECEIL	Workunit Ceiling Database

ON-LINE HELP FACILITY

The on-line HELP facility can be accessed by typing F1 or H. HELP provides information on all command menus, function key options, and field data information. Pressing F9 or X at any time exits HELP; press any other key to continue in HELP. Appendix C displays all the Program Help Screens.

PRINT PROGRAM OPTIONS

The PRINT option is accessed to print a queried database. Before selecting a print option, please make sure the printer is on-line and set to Laser Jet. Press ESC at any time to stop printing.

The PRINT command menu for the Parts Inventory database consists of these functions:

F1 or H	enter the HELP facility
F4 or D	print entire Database
F5 or C	print data queried by Part Category
F6 or S	print data queried by Supplier Name
F7 or I	print data queried by Workunit
F8 or P	print data queried by Part Price,
	> < or = a specified price.
F9 or X	EXIT the print facility

This menu is also shown in Appendix A. Pressing PRINT from either the Suppliers Information menu or the Workunit menu prints the entire database. Examples of all possible forms of output can be found in Appendix D (Supplier Information database), Appendix E (Workunit Ceiling database), and Appendix F (Parts Inventory database).

DATABASE SAVE/COMBINE FUNCTION

The database Save/Combine function utilizes the MACROS feature of dBase IV. For more information about dBase macros, refer to section 13 in the dBase reference "Using the Menu System".

To save/combine databases, first load the macros key by typing RESTORE MACROS FROM rpts.key at the dot prompt. The macros editor is not case sensitive, so the user may use upper- or lower-case letters. Then, all databases can be saved quarterly by typing alt-F1 at the dot prompt. The working database will be emptied; there will be no files in it. When prompted with "Macros execution suspended", the user must provide a number representing the quarter and

two-digit year. For example, enter "190" for quarter 1 of 1990. Type SHIFT-F10 when finished entering the information; it is unnecessary to type "ENTER". At the years end, the saved quarterly databases can be combined into one yearly database by typing alt-F2 at the dot prompt. Save/combine macros can be executed any time the user is presented with the dot prompt. Quarterly and yearly databases can be printed from the Print Menu by responding "Y" to the prompt **"Do you wish to print quarterly or yearly databases?"**.

Macro Commands: alt-F1 save data in Quarterly database
       alt-F2 combine 4 quarterly databases into Yearly database
       shift-F10 continue with macros execution

SECTION TWO- Hand Receipt Database Management System

SYSTEM DESCRIPTION

A data management system is an essential mechanism towards the maintenance of timely and accurate hand receipt records. The system described here is a useful one in that it allows the user to edit, manipulate and make inquires on the database. On-line help and interactive menu screens create an easy to use data management system.

Software. The Hand Receipt Database System is programmed in dBase IV. dBase IV must be installed to run this data management system; necessary files include the following:

CONFIG.DB

and dBase IV files with the following extensions...   .OVL
.EXE
.RES
.HLP
.GEN
.CAT
.PRF

Also required are the following programs, database files and index files created to support the database management system:

Programs	Database Files	Indexes
HANDPROG.PRG	HANDDBF.DBF	HANDNDX.NDX
HANDPROC.PRG	HANDREC.DBF	HANDCDE2.MDX
HANDPRNT.PRG		
HANDHELP.PRG		
HANDSCRN.PRG		
HANDSCN2.PRG		

11

Hardware. The Hand Receipt Database System is designed to run on the PC in a single user environment. A color monitor is not required.

OPERATING PROCEDURES

ENTERING DBASE AND SELECTING THE DATABASE

Before entering dBase, make sure that the date set on the computer is correct. From the Word Perfect Library menu, choose the dBase IV option (B).

Once in dBase IV, at the dot prompt type DO HR.

. do HR <-

To leave dBase IV type QUIT.

. QUIT <-

Control will automatically return to the Word Perfect Library menu upon quitting dBase IV.

Function key assignments. Upon entering the Hand Receipt Database System the user will be presented with a file input screen and a command menu. Appendix G shows both the input screen and the command menu.

From this menu, you may

F1 or H	go to the HELP facility
F2 or S	SEARCH the database
F3 or N	go to the NEXT record
F4 or P	go to the PREVIOUS record
F5 or D	DELETE the current record
F6 or R	RECOVER a deleted record
F7 or A	ADD a record to the database
F8 or C	CHANGE information in a record

| | F9 or I | PRINT database information |
| | F10 or X | EXIT the Hand Receipt Program |

Appendix G and Appendix H provide Function Key options and assignments.

FLAGS AND FIELD DESCRIPTIONS

Each time the user chooses the Next, Previous, or Search commands, a tag appears in the center of the screen if the next, previous or searched for item is over due (EXPECTED RETURN DATE is prior to that days date), **This item is over due**, with !! flashing by the EXPECTED RETURN DATE field.

Field descriptions. The database is indexed by a unique record code, the HR/Stock Number, which is 8 characters in length and represents the hand receipt code; the user may create their own hand receipt code, long as it is **unique** and **eight characters in length**. Remember, however, that the code will be used to index the database, and, therefore, must be easily recalled. The options S, C, and A work off the indexed database and are therefore triggered by this code.

Information is inserted through the input screen into records via fields. The fields in the Hand Receipt menu include the HR/Stock Number, the Serial No./Description, the Location, Borrowed by, the Date Borrowed, and the Expected Return Date.

Flags for Incorrect Input. If essential information in a record (the HR/Stock Number, Serial No./Description, or Location) is missing, a * will prompt the user to provide the necessary information before proceeding further. If the part is not borrowed (the BORROWED BY field is left blank), the program will insert the default value of "11/11/11" into both the DATE BORROWED and the EXPECTED RETURN DATE fields. While adding or changing an item (options A and C), the user will be flagged if the EXPECTED RETURN DATE entered is prior to either the DATE BORROWED or that days date. Any errors, in any file, can be corrected at any time by choosing F8 or C in the command menu.

EDITING, DELETING, AND RECOVERING FILES

While editing the menu fields, the following keyboard functions can be utilized:

13

ARROW KEYS	left/ right to move one space
	up/ down to move one field
ENTER	skip to next field
END	move to end of field
HOME	move to beginning of field
DEL, INS	functional
BACKSPACE	functional
PgUp/ PgDn	NOT functional

Files in the database can be deleted with option D or F5; the user is prompted for verification before the deletion takes place. Deleted files are still displayed and are identified with a tag in either upper corner, *** DELETED ***. Deleted files are not accessed with any print/query option (I or F9). Option R or F6 recovers deleted files. To eliminate deleted files permanently (they can NEVER be recovered), type PACK at the dot prompt prior to quitting dBase IV.

. PACK <-

ON-LINE HELP FACILITY

The on-line HELP facility can be accessed by typing F1 or H. HELP provides information on all command menus, function key options, and field data information. Pressing F9 or X at any time exits HELP; press any other key to continue in HELP. Appendix I shows all the Program Help Screens.

PRINT PROGRAM OPTIONS

The PRINT option is accessed to print a queried database. Before selecting a print option, please make sure the printer is on-line and set to Laser Jet. Press ESC at any time to stop printing.

The PRINT command menu for the hand receipt database consists of these functions:

F1 or H	enter the HELP facility
F4 or D	print entire Database
F5 or B	print data queried by Borrower

F6 or E	print data queried by Expected Return Date
F7 or O	print data queried by Over Due Items
F8 or S	print Sub- Hand Receipt
F9 or X	EXIT the print facility

This menu is also shown in Appendix G. Refer to Appendix J for examples of all possible forms of output.

SUB-HAND RECEIPT

Choosing option S or F8 will print out a sub- hand receipt. This form specifies what item is being borrowed, by whom, and on what date. It also states when the item is due to be returned and at what location it should be returned to. The form should be signed by the borrower, thereby signifying that he/she accepts full responsibility of the item while it is in his/her possession. Refer to Appendix K for the Sub-Hand Receipt printout.

HAND RECEIPT HISTORY DATABASE

Any time a file is Deleted, Recovered, or Changed, the original file is appended to the Hand Receipt History database. Choosing option Z or F3 will print, from this database, a history report of all transactions for each hand receipt item. Appendix L shows an example of a History Report printout.

CONCLUSION

A database management system is an essential part of the maintenance of efficient, accurate and timely inventory or hand receipt records. The system described in section one of this report, the Inventory Database Management System, was developed to manage specific inventory

purchases for the Military Ergonomics Division. Section two of this report described the Hand Receipt Database Management System. This system was developed to manage hand receipt items and to track the lending of these items for the Military Ergonomics Division. Both systems have been designed to allow flexible database management with minimal user intervention. However, these programs are not restricted for use only to Military Ergonomics Division purposes. They can be readily adapted to any other inventory or database management function.

These database systems were written in dBase IV. As Oracle becomes available in the future, these programs will be recoded for use with that software system.

Requests can be made to the author for executable programs.

APPENDIX A. Inventory Program Screens.

Database Selection Screen

Which database would you like to work with:
>   (A) Part Inventory
>   (B) Supplier Information
>   (C) WORKUNIT Ceilings

Choose One (A or B or C)

Print Program Menu Options Screen

PRINT MENU

Please be sure printer is ON and ON-LINE !!
(set to Laser Jet)

F1= Help with print
F9= eXit print mode
F4= print entire Database

Query By:

F5=Category F6=Supplier code F7=purchaser Id F8=Price

Program Screens

Parts Inventory Database Input Screen

MILITARY ERGONOMICS -- SUPPLY INVENTORY UPDATE AND INQUIRY

```
+--------------------------------------------------------- +
|                                                          |
| Bar/Dummy Code  [        ]  Category  [  ]               |
|                                                          |
| Supplier Code   [        ]  Requisition No. [        ]   |
|                                                          |
| Part Description    [                        ]           |
|                                                          |
| Quantity [      ]   Price $[          ]  Workunit  [   ] |
|                                                          |
+--------------------------------------------------------- +
```

Supplier Information Database Input Screen

MILITARY ERGONOMICS -- SUPPLIER INFO. UPDATE AND INQUIRY

```
+--------------------------------------------------------- +
| Supplier Code   [        ]                               |
|                                                          |
| Supplier Name   [                        ]               |
|                                                          |
| Address        [                        ]                |
|                [                        ]                |
|                                                          |
| City [                  ] State [  ] Zip Code [    ]     |
|                                                          |
| Contact [                  ] Telephone [  ] [  -    ]    |
+--------------------------------------------------------- +
```

Workunit Ceiling Database Input Screen

MILITARY ERGONOMICS -- WORKUNIT CEILING UPDATE AND INQUIRY

```
+ ---------------------------------------------------------+
|                                                          |
|                                                          |
|      Workunit:            [   ]                          |
|                                                          |
|      Ceiling Amount:   $[         ]                      |
|                                                          |
+ ---------------------------------------------------------+
```

File Editing Command Menu

The following instructions appear beneath each screen during File editing sessions (when Change or Add is selected).

Move Cursor:

ARROW KEYS- left/ right one space, up/ down one field.

Press ENTER to skip to next field.

END moves to end of field. HOME moves to beginning of field.

DEL, INS, BACKSPACE can be used. PgUp/ PgDn cannot be used.

Function Key Options

F1=Help   F3=Previous F5=Delete   F7=Change F9=eXit

F2=Search F4=Next   F6=Recover F8=Add   F10=print

19

APPENDIX B. Inventory Program Function Key Assignment.

Main Program

        set function 2 to "S"

        set function 3 to "P"

        set function 4 to "N"

        set function 5 to "D"

        set function 6 to "R"

        set function 7 to "C"

        set function 8 to "A"

        set function 9 to "X"

        set function 10 to "I"

Print Program

        set function 2 to ";"

        set function 3 to ";"

        set function 4 to "D"

        set function 5 to "C"

        set function 6 to "S"

        set function 7 to "W"

        set function 8 to "P"

        set function 10 to ";"

APPENDIX C. Inventory Program Help Screens.

Command Definitions

Page 1 of Command Definitions

Military Ergonomics Inventory Update and Inquiry

This program gives you the following commands:

(S)earch -   Search for an existing Part by Part Code or for an existing Supplier by Supplier Code.

(C)hange -   Change the data for the Part or Supplier displayed on the screen.

(N)ext -   Page forward to the next Part or Supplier in alphabetical order by Code.

(P)revious -   Page backward to the previous Part or Supplier in alphabetical order by Code.

(D)elete -   Mark the Part or Supplier displayed on the screen for deletion.

Page 2 of Command Definitions

Military Ergonomics Inventory Update and Inquiry

Program commands continued:

(R)ecover -   Recover ("undelete") the Part or Supplier displayed on the screen.

(A)dd -   Add a new Part or Supplier to the appropriate file.

pr(I)nt -   Query and Print files. Print Quarterly and Yearly databases.

e(X)it -   Quit the Inventory Update and Inquiry Program.

(H)elp -   Display a help screen describing both the Part Inventory and the Supplier Information fields.

File Field Definitions

Part Inventory File Field Definitions

The Part Inventory File Fields:

PROMPT	LENGTH	EXPLANATION
Part Code	8	A unique code used to identify the Part. Use Purchasers Initials and 6 characters from the Part Description.
Requisition Number	9	As appears on the order form.
Supplier Code	8	A unique code used to identify the Supplier. Use the first 3 letters of Supplier Name and the Zip Code.
Category	3	A general classification i.e. SFT for software, etc.
Part Description	25	A detailed description of the Part.
Quantity	8	The total quantity of the Part.
Price	10	The unit price of the Part.
Workunit	3	The workunit requesting the purchase.

Supplier Information File Field Definitions

The Supplier Information File Fields:

PROMPT	LENGTH	EXPLANATION
Supplier Code	8	A unique code used to identify the Supplier. Use the first 3 letters of Supplier Name and the Zip Code.
Supplier Name	25	The Supplier (company) name.
Address	25	Two lines for the street address.
City	25	The Supplier city.
State	2	Postal state abbreviation.
Zip Code	5	The postal zip code.
Contact	20	The person to contact for orders.
Telephone	3 + 8	The area code and telephone number.

Workunit Ceiling File Field Definitions

The Work Unit Ceiling Information File Fields:

PROMPT	LENGTH	EXPLANATION
Workunit	3	A unique code used to identify the Work Unit. Consists of 3 digits.
Ceiling Amount	10	The maximum amount of money for spending for the specified Work Unit.

NOTE: The Total of each purchase will be added to the Work Unit total. If this Work Unit Total exceeds the Ceiling Amount, a flag will warn the user that they are over spending.

Print Program Command Definitions

Military Ergonomics Print Part Inventory

This program gives you the following print commands:

(H)elp -   Display a help screen describing the Print fields.

(D)atabase -   print entire Part Inventory Database

e(X)it -   Quit the Print program

Print Data Queried By:

(C)ategory -   print data sorted by Part Category

(S)upplier -   print data sorted by Supplier

(W)orkunit -   print data sorted by Workunit

(P)rice -   print data sorted by Unit Price in amounts Greater than, Less than, or Equal to the unit price.

APPENDIX D. Supplier Information Printout Example.

Military Ergonomics Supply Inventory
Supplier Information Database

Supplier Name	Address	Contact
Compaq Computer Corp	Customer Relations Dept p.o. box 69200 Houston, MA 77269 (508) 000-0000	(no contact)
McGraw hill	2600 Tenth Street Berkeley, CA 94710 (213) 329-8000	Miriam Liskin
SAS Institute Inc.	SAS Circle Box 8000 Cary, RI 27512 (401) 651-5142	W.K. Prusaczyk

Prepared by Gerry Newcome   ARIEM   x4834

APPENDIX E. Workunit Ceiling Printout Example.

Military Ergonomics Supply Inventory
Workunit Database

Workunit	Current Total	Ceiling
0110	999.00	9999.99
1234	3100.00	500.00
2468	2500.00	2500.00
3579	1875.00	10000.00
5678	300.00	500.00

Prepared by Gerry Newcome   ARIEM   x4834

APPENDIX F. Parts Inventory Printout Examples.

Entire Database

1 August 1990   Page   1

Military Ergonomics Supply Inventory
Part Inventory Database

| | | | ----- Price ----- | | | | |
Req. No.	Part Description	Quant.	Unit	Total	WU	CAT	Bar Code
1111-1111	test part 1	25	12.00	300.00	1234	BAR	BARCODE1
2222-2222	test part 2	10	30.00	300.00	5678	BAR	BARCODE2
3333-3333	test part 3	50	50.00	2500.00	2468	BAR	BARCODE3
4444-4444	test part 4	25	75.00	1875.00	3579	BAR	BARCODE4
5555-5555	test part 5	999	1.00	999.00	0110	BAR	BARCODE5
1234-1234	part desc	500	5.00	2500.00	1234	BAR	BARCODEZ

Prepared by Gerry Newcome   ARIEM   x4834

Queried For a Specific Part Category

Military Ergonomics Supply Inventory
Printed for Part Category: BAR

| | | | ----- Price ----- | | | |
Req. No.	Part Description	Quant.	Unit	Total	WU	Bar Code
1111-1111	test part 1	25	12.00	300.00	1234	BARCODE1

Source: Compaq Computer Corp
Customer Relations Dept
p.o. box 692000
Houston, MA 77269
(508) 000-0000

| 2222-2222 | test part 2 | 10 | 30.00 | 300.00 | 5678 | BARCODE2 |

Source: Compaq Computer Corp
Customer Relations Dept
p.o. box 692000
Houston, MA 77269
(508) 000-0000

Total cost for Part Category BAR: $ 600.00

Prepared by Gerry Newcome   ARIEM   x4834

Queried For a Specific Workunit

Military Ergonomics Supply Inventory
Printed for Workunit: 1234

Bar Code	Part Description	Req. No.	Quant.	----- Price -----		CAT
				Unit	Total	
BARCODE1	test part 1	1111-1111	25	12.00	300.00	BAR

Source: Compaq Computer Corp
Customer Relations Dept
p.o. box 692000
Houston, MA 77269
(508) 000-0000

| BARCODEZ | part desc | 1234-1234 | 5 | 500.00 | 2500.00 | BAR |

Supplier NOT in database!!!

Total cost for Workunit 1234: $ 2800.00

Prepared by Gerry Newcome   ARIEM   x4834

Queried For a Specific Part Price:
Prices Greater or Less Than, or Equal To, Unit Price

1 August 1990

Military Ergonomics Supply Inventory
Printed for Prices < $ 50.00

		---- Price ---				
Req. No.	Part Description	Quant.	Unit	Total	WU	CAT Bar Code
1111-1111	test part 1	25	12.00	300.00	1234	BAR BARCODE1

Source: Compaq Computer Corp
Customer Relations Dept
p.o. box 692000
Houston, MA 77269
(508) 000-0000

| 2222-2222 | test part 2 | 10 | 30.00 | 300.00 | 5678 | BAR BARCODE2 |

Source: Compaq Computer Corp
Customer Relations Dept
p.o. box 692000
Houston, MA 77269
(508) 000-0000

Prepared by Gerry Newcome   ARIEM   x4834

Queried For a Specific Supplier

Military Ergonomics Supply Inventory
Printed for Supplier:

Compaq Computer Corp
Customer Relations Dept
p.o. box 692000
Houston, MA 77269
(508) 000-0000

| | | | ---- Price --- | | | |
Req. No.	Part Description	Quant.	Unit	Total	WU	CAT
1111-1111	test part 1	25	12.00	300.00	1234	BAR
2222-2222	test part 2	10	30.00	300.00	5678	BAR
3333-3333	test part 3	50	50.00	2500.00	2468	BAR
4444-4444	test part 4	25	75.00	1875.00	3579	BAR
5555-5555	test part 5	999	1.00	999.00	0110	BAR

$ 5974.00

Prepared by Gerry Newcome   ARIEM   x4834

35

APPENDIX G. Hand Receipt Program Screens.

Main Program Hand Receipt Input Screen

MILITARY ERGONOMICS -- HAND RECEIPT INFORMATION

```
+ -------------------------------------------------------------- +
|                                                                |
| HR/Stock Number:  [       ]                                    |
| Serial No./Desc.: [                      ]                     |
| Location:         [                      ]                     |
|                                                                |
+ -------------------------------------------------------------- +
|                                                                |
| Borrowed by:      [                      ]                     |
| Date Borrowed:    [       ]   Example of date                  |
| Expected Return:  [       ]   format: MM/DD/YY                 |
|                                                                |
+ -------------------------------------------------------------- +
```
NOTE:
 When "Borrowed by:" field is left blank, "Date Borrowed:" &
 "Expected Return:" will be filled with default value "11/11/11"

File Editing Commands

The following instructions appear beneath the screen during File editing sessions (when Change or Add is selected).

Move Cursor:

ARROW KEYS- left/ right one space, up/ down one field.

Press ENTER to skip to next field.

END moves to end of field. HOME moves to beginning of field.

DEL, INS, BACKSPACE can be used. PgUp/ PgDn cannot be used.

Function Key Options

The following function key options are displayed beneath the Input Screen.

F1=Help   F3=Previous F5=Delete   F7=Change F9=eXit

F2=Search F4=Next   F6=Recover F8=Add   F10=print

Print Program Menu Options Screen

PRINT/QUERY MENU

Please be sure printer is ON and ON-LINE !!
(set to Laser Jet)

F1= Help with Print/Query   F9= eXit print/query mode
F8= print Sub-hand receipt   F4= print entire Database
                              F3 or Z = print History Report
Query By:

F5= Borrower   F6= Expected return date   F7= Over due items

APPENDIX H. Hand Receipt Program Function Key Assignment.

Main Program

     set function 2 to "S"
     set function 3 to "P"
     set function 4 to "N"
     set function 5 to "D"
     set function 6 to "R"
     set function 7 to "C"
     set function 8 to "A"
     set function 9 to "X"
     set function 10 to "I"

Print Program

     set function 2 to ";"
     set function 3 to "Z"
     set function 4 to "D"
     set function 5 to "B"
     set function 6 to "E"
     set function 7 to "O"
     set function 8 to "S"
     set function 10 to ";"

APPENDIX I. Hand Receipt Program Help Screens.

Command Definitions

Page 1 of Command Definitions

  Military Ergonomics Hand Receipt Information

This program gives you the following commands:

  (S)earch - Search for an existing Hand Receipt Number.

  (C)hange - Change the data for the Hand Receipt Number displayed on the screen.

  (N)ext - Page forward to the next Hand Receipt Number on file.

  (P)revious - Page backward to the previous Hand Receipt Number on file.

  (D)elete - Mark the Hand Receipt Number displayed on the screen for deletion.

Page 2 of Command Definitions

  Military Ergonomics Hand Receipt Information

Program commands continued:

  (R)ecover - Recover ("undelete") the Hand Receipt Number displayed on the screen.

  (A)dd - Add a new Hand Receipt Number to the database.

  pr(I)nt - Print the Hand Receipt database.

  e(X)it - Quit the Hand Receipt Information Program.

  (H)elp - Display a help screen describing the Hand Receipt Number file fields.

File Field Definitions

The Hand Receipt Information File Fields:

PROMPT	LENGTH	EXPLANATION
Hand Receipt Number	8	A unique number given to each piece of equipment on a hand receipt.
Description	30	A description of the piece of equipment corresponding to the hand receipt number.
Location	30	The physical location of the piece of equipment (i.e. ARIEM 107)
Borrowed by	30	The name of the person who is currently borrowing the piece of equipment. Can also include their extension.
Date Borrowed	8	The date this person borrowed the piece of equipment- written as MM/DD/YY * default date is "11/11/11"
Expected Return	8	The expected date the person will return the piece of equipment- written as MM/DD/YY * default date is "11/11/11"

Print Program Command Definitions

Print/Query Hand Receipt Information Files- PRINT COMMANDS

(H)elp-   Display a help screen describing the Print/ Query fields.

(S)ub-hand Receipt-   Print a Sub- Hand Receipt for borrower to sign.

(D)atabase-   Print/query entire Database

History Report (Z)-   Print a history report of all transactions for each HR item

e(X)it-   Quit the Print/ Query program

(B)orrower-   Print/query data sorted by the person who borrowed the equipment.

(E)xpected Return- Date   Print/query data sorted by the expected return date of equipment.

(O)ver Due Items-   Print/query items that are over due.

APPENDIX J. Hand Receipt Database Output.

Entire Database

1 August 1990   Page 1

<div align="center">

Military Ergonomics
Hand Receipt Database

</div>

H.R. Num.	Description	Location

1. A1101   Ser#2451a00034   rm131
    Borrowed by: deb d   On: 08/01/90   Due back on: 08/29/90

2. ABCDEFGH   a new part   any where
    Borrowed by: On: 11/11/11   Due back on: 11/11/11

3. ARIEMNCO   123456778   no where
    Borrowed by: deb d   On: 06/20/90   Due back on: 08/12/90

4. AZ123?CC   This has no description   107 ARIEM
    Borrowed by: deb diraimo On: 05/17/90 Due back on: 07/29/90

                                                        OVER DUE II

5. DEBDIR11   no where
    Borrowed by: laurie   On: 06/30/90   Due back on: 07/02/90

                                                        OVER DUE II

1 August 1990   Page 1

<div align="center">

Military Ergonomics
Hand Receipt Database
For Borrower: deb d

</div>

H.R. Num.	Description	Location
A1101	Ser#2451a00034	rm131
	Borrowed on: 08/01/90	To be returned on: 08/29/90
ARIEMNCO	123456778	no where
	Borrowed on: 06/20/90	To be returned on: 08/12/90
DIRAIMOS	4028280732	105 versailles street
	Borrowed on: 07/02/90	To be returned on: 08/12/90

1 August 1990   Page 1

Military Ergonomics
Hand Receipt Database
Items to be Returned by: 08/12/90

H.R. Num.	Description	Location
ARIEMNCO	123456778	no where
	Borrowed by deb d on 06/20/90	
DIRAIMOD	a part for me	wherever I am
	Borrowed by whoever I know on 05/02/90	
DIRAIMOS	4028280732	105 versailles street
	Borrowed by deb d on 07/02/90	

1 August 1990   Page 1

<div align="center">

Military Ergonomics
Hand Receipt Database
Over Due Items

</div>

	H.R. Num.	Description	Location
1.	AZ1232CC	This has no description	107 ARIEM

Borrowed by: deb diraimo On: 05/17/90 Due back: 07/29/90

2.	DEBDIR11		no where

Borrowed by: laurie   On: 06/30/90   Due back: 07/02/90

3.	LMNOPQR	WAY TO GO	any place you want

Borrowed by: debbie On: 06/28/90 Due back: 06/30/90

APPENDIX K. Sub- Hand Receipt Form.

Military Ergonomics
Sub- Hand Receipt

1. Item number A1101   , Ser#2451a00034, was borrowed
   on 08/01/90 by deb d.

2. This item will be returned to rm131 by COB 08/29/90.

3. I, deb d, agree to accept full responsibility
   of this item while it is in my possession.

_____

deb d

APPENDIX L. History Report Output.

Military Ergonomics
Hand Receipt Database
History Report

H.R. Num.	Description	Location

1.

Date of Transaction: 07/02/90
Borrowed by: On: / /   Due back: / /

2.

Date of Transaction: 07/02/90
Borrowed by: On: / /   Due back: / /

3.   A1101   Ser#2451a00034   rm131
Date of Transaction: 07/02/90
Borrowed by: deb On: / /   Due back: / /

4.   A1101   Ser#2451a00034   rm131
Date of Transaction: 07/02/90   OVERDUE !!
Borrowed by: deb diraimo On: 06/05/90 Due back: 07/09/90

5.   A1101   Ser#2451a00034   rm131
Date of Transaction: 07/02/90   OVERDUE !!
Borrowed by: laurie   On: 06/05/90   Due back: 07/09/90

DISTRIBUTION LIST

2 Copies to:

Commander
U.S. Army Medical Research and Development Command
ATTN: SGRD-OP
Fort Detrick
Frederick, MD 21701-5012

Commander
U.S. Army Medical Research and Development Command
ATTN: SGRD-PLE
Fort Detrick
Frederick, MD 21701-5012

Commander
U.S. Army Medical Research and Development Command
ATTN: SGRD-PLC
Fort Detrick
Frederick, MD 21701-5012

1 Copy to:

Commandant
Academy of Health Sciences, U.S. Army
ATTN: AHS-COM
Fort Sam Houston, TX 78234-6100

Stimson Library
Academy of Health Sciences, U.S. Army
ATTN: Chief Librarian
Bldg. 2840, Room 106
Fort Sam Houston, TX 78234-6100

Director, Biological Sciences Division
Office of Naval Research - Code 141
800 N. Quincy Street
Arlington, VA 22217

Commanding Officer
Naval Medical Research and Development Command
NMC-NMR/ Bldg. 1
Bethesda, MD 20814-5044

Office of Undersecretary of Defense for Acquisition
ATTN: Director, Defense Research and Engineering
  Deputy Undersecretary for Research & Advanced Technology
  (Environmental and Life Sciences)
  Pentagon, Rm. 3D129
  Washington, D.C. 20301-3100

Dean
School of Medicine
Uniformed Services University Of The Health Sciences
4301 Jones Bridge Road
Bethesda, MD 20814-4799

2 Copies to:

Commander
U.S. Army Medical Research Institute of Chemical Defense
Aberdeen Proving ground, MD 21010-5425

Commander
U.S. Army Chemical Research, Development and Engineering Center
Aberdeen Proving Ground, MD 21010-5423

Commander
U.S. Army Chemical School
Fort McClellan, AL 36205-5020

Commander
U.S. Air Force School of Aerospace Medicine
Brooks Air Force Base, TX 78235-5000

Commander
Naval Health Research Center
P.O. Box 85122
San Diego, CA 92138-9174

Commander
U.S. Army Biomedical Research and Development Laboratory
Fort Detrick
Frederick, MD 21701-5010

Commander
U.S. Army Medical Material Development Activity
Fort Detrick
Frederick, MD 21701-5009

U.S. Army Scientific Liason Officer to DCIEM
(U.S. Army Medical R&D Command)
1133 Sheppard Avenue W.
P.O. Box 2000
Downsview, Ontario
CANADA M3M 3B9

1 Copy to:

Commandant
Walter Reed Army Institute of Research
Walter Reed Army Medical Center
ATTN: SGRD-UWZ-C (Director for Research Management)
Washington D.C. 20307-5100

Commander
U.S. Army Environmental Hygiene Agency
Aberdeen Proving Ground, MD 21010-5422